contact hole structure of the embodiment of the invention can also be located in peripheral area B. With reference to FIG. **4**, in one embodiment, the first conductive layer **140** is connected to the data line **202** via the contact hole **131'** of the planarization layer **130**, and the relationship between the profile of the contact hole **131'** and the width of the data line **202** can satisfy the above equations. The first conductive layer **140** is connected to the scan line **201** via the contact hole **131"** of the planarization layer **130** and the gate insulation layer **222**. The relationship between the profile of the contact hole **131"** and the width of the scan line **201** can satisfy the above equations. In this embodiment, the gate insulation layer **222** is formed between the data line **202** and the scan line **201**.

FIG. **5** shows a liquid-crystal display **200** of an embodiment of the invention, which comprises an opposite substrate **260**, a liquid-crystal layer **250**, a sealant structure and the element substrate **100**. The liquid-crystal layer **250** is disposed between the element substrate **100** and the opposite substrate **260** and surrounded by the sealant structure. The opposite substrate **260** may comprises color filter layer. The element substrate **100** could be connected with drivers or printed circuit board.

With reference to Table 1, in the embodiment of the invention, the width of the metal layer (M2) **120** has tolerance of ±3.8.

TABLE 1

	Sample 1	Sample 2	Sample 3	Sample 4	Sample 5	Sample 6	Sample 7
Designed width of the metal layer (M2)	14.54	6.42	8.69	8.12	12.07	23.56	31.37
Actual width of the metal layer (M2) 120	15.37	7.66	7.41	7.79	11.52	19.84	34.93
tolerance	0.83	1.24	−1.28	−0.33	−0.55	−3.72	−3.56

Utilizing the embodiment of the invention, the aperture ratio and the contrast ratio of the liquid-crystal display are optimized, and the light leakage and the low-contrast ratio problem are prevented.

Use of ordinal terms such as "first", "second", "third", etc., in the claims to modify a claim element does not by itself connote any priority, precedence, or order of one claim element over another or the temporal order in which acts of a method are performed, but are used merely as labels to distinguish one claim element having a certain name from another element having the same name (but for use of the ordinal term).

While the invention has been described by way of example and in terms of the preferred embodiments, it is to be understood that the invention is not limited to the disclosed embodiments. On the contrary, it is intended to cover various modifications and similar arrangements (as would be apparent to those skilled in the art). Therefore, the scope of the appended claims should be accorded the broadest interpretation so as to encompass all such modifications and similar arrangements.

What is claimed is:

1. An element substrate, comprising:

a substrate;

a metal layer, disposed on the substrate and having a first width along a first direction; and

a planarization layer, disposed on the metal layer and having a first thickness along a second direction perpendicular to the first direction,

wherein the planarization layer comprises a top and a bottom, and the first thickness is a distance between the top and the bottom along the second direction in a pixel region,

wherein the planarization layer comprises a contact hole, the contact hole has a contiguous wall and a hole bottom, the hole bottom exposes the metal layer, and the hole bottom has a second width along the first direction,

wherein the first width and the second width satisfy the following equation:

$$2*\left\{\frac{L_2}{2}+\frac{(1-p)h}{\ln(p)\cdot\tan(1.5\theta)}\cdot\ln\left[\frac{-\tan\delta*(1-p)}{\ln(p)\cdot\tan(1.5\theta)}\right]\right\}-3.8\le L_1\le 2*\left\{\frac{L_2}{2}+\frac{(1-p)h}{\ln(p)\cdot\tan(1.5\theta)}\cdot\ln\left[\frac{-\tan\delta*(1-p)}{\ln(p)\cdot\tan(1.5\theta)}\right]\right\}+3.8$$

wherein L1 is the first width, L2 is the second width, h is the first thickness, δ is an angle between 5 degrees to 20 degrees, θ is an included angle between a straight line and an extension surface of the hole bottom, the straight line connects a reference point and a base point, the reference point and the base point are located on the contiguous wall, wherein a distance from the reference point to the bottom of the planarization layer along the second direction is 0.95h, the base point is located at the point where the contiguous wall is connected to the hole bottom, p is an adjustable parameter, and $0<p\le 0.1$.

2. The element substrate as claimed in claim **1**, wherein the adjustable parameter p is 0.05.

3. The element substrate as claimed in claim **1**, wherein the angle δ is smaller than 10 degrees, and the angle δ is greater than or equal to 5 degrees.

4. The element substrate as claimed in claim **1**, wherein the angle δ is greater than 10 degrees, and the angle δ is smaller than or equal to 20 degrees.

5. The element substrate as claimed in claim **1**, further comprising a conductive layer disposed on the planarization layer, wherein the conductive layer is electrically connected to the metal layer via the contact hole.

6. The element substrate as claimed in claim **1**, wherein the metal layer is a source electrode or a drain electrode of a driving element.

7. The element substrate as claimed in claim **1**, wherein the metal layer is a data line or a scan line of a driving element.